

ABSTRACT OF THE DISCLOSURE

The present invention provides a method of forming a patterned thin film on a surface of a substrate having thereon a patterned underlayer of a self-assembled monolayer. The method comprises depositing a thin film material on the self-assembled monolayer to produce a patterned thin film on the surface of the substrate. The present invention further provides processes for preparing the self-assembled monolayer. The present invention still further provides solution-based deposition processes, such as spin-coating and immersion-coating, to deposit a thin film material on the self-assembled monolayer to produce a patterned thin film on the surface of the substrate.